seemed, after a while, to undergo coagulation, and appeared often as beautifully and finely granulated as any real "cell."

When this mixture of myeline and serum was spread very thinly over the glass slide, there often started into existence, on the addition of water, small primary globules, round each of which an irregular mass of granular material became gradually detached from the glass slide. It at last shaped itself into a secondary globule, enclosing the primary one, and constituting with it, down to the minutest details, the most perfect typical "cell." In many instances the nucleolus did not fail; and the narrow white margin, so often mistaken for a cell-wall, was always present. Beautiful "mother cells" were formed in the same manner.

The next endeavour was to form "cells" according to the second mode.

If the amorphous myeline be very thinly spread on the glass slide, instead of tubes there will form bodies looking like rings. They are actually double globules, the inner globule being more transparent than the outer. They correspond to the inner and outer substance of the above-mentioned tubes. When these are left to dry, and then again acted upon with water, one portion will swell out into a clear globule, enclosing the rest as "nucleus." These "nuclei" are either large and single, like those of granulation-corpuscles, or they are multiple, exactly like those of pus-cells. Whole layers of perfect pus-corpuscles are thus formed. But, of course, more complicated shapes occur as well—among these, for instance, many such pus-cell-like bodies enclosed within one large sphere.

If, instead of water, serum be added to the thinly spread myeline, biconcave disks will form, only generally much larger than blood-corpuscles.

"Cells" being thus merely the physical result of chemical changes, they can no longer afford a last retreat to those specific forces called vital. Physiology must aim at being something more than the study of the functions of a variety of ultimate organic units; and pathology will gain new hope in considering that it is not really condemned to be the interpreter of the many abnormities to which the mysterious life of myriads of microscopical individuals seemed to be liable.

MISCELLANEOUS.

The late Mr. Joshua Alder.

We regret to announce the death, on the 21st of January, of Mr. Joshua Alder, of Newcastle-on-Tyne, at a somewhat advanced age. He was a true naturalist—working diligently and carefully himself in the field of marine zoology, and encouraging his fellow-labourers (by all of whom he was much beloved), without any petty feeling of jealousy or affectation of superiority. Mr. Alder was frequently a contributor to this periodical. His departure from the ranks of British naturalists was not long preceded by that of a still

greater veteran, Mr. William Bean, of Scarborough, who was a zealous and kind-hearted collector of shells, fossils, and plants.

Hatching of the Mantis *in England.*

By Henry Denny.

Not being aware if there is an instance on record of the hatching of any species of *Mantis* in England, I beg to inform you that, on the 12th of December last, I was much gratified by the sight of a very lively little specimen in a tumbler glass, up and down the sides of which it was rapidly pacing in pursuit of small flies, and every now and then elevating its prothorax and anterior pair of feet, in the well-known attitude of these insects when searching for food. A young friend of mine, Mr. H. L. Watson, of Leeds, detached a cluster of eggs from a post, about a mile out of the town of Melbourne, Australia, where he had observed it for a month previously, towards the end of August; these were placed in a small box. After his arrival in England, he examined the box, and found about twenty specimens hatched, and all dead; on the 10th of December, however, another, the one above alluded to, made its appearance, and fed readily upon small flies for about fifteen days, when, owing to the supply failing, the little *Mantis* became too weak to kill larger flies, though it still made efforts to do so, and at last died. Had it occurred earlier in the season, there is little doubt that by keeping the specimen in a greenhouse, with a good supply of food, it would have arrived at maturity and lived many weeks. My friend tells me the species is very plentiful in the neighbourhood of Melbourne, where it is a common practice to place specimens of the *Mantis* on the window-blinds, where they keep the room clear of flies by their incessant watchfulness for food.

On some points in the Structure of the Xiphosura, *having reference to their Relationship with the* Eurypterida.

By Henry Woodward, Esq., F.G.S., F.Z.S., of the British Museum.

The author pointed out that Prof. M'Coy's tribe *Pœcilopoda* was intended to include the *Limuli*, with *Eurypterus*, *Pterygotus*, and *Belinurus*. Prof. Huxley had already shown (in 1859) that this classification was founded upon an erroneous interpretation of the fossils, then (1849) only known in England by extremely fragmentary remains.

The object of this communication was to demonstrate that although Prof. M'Coy's classification was based on conjecture rather than upon a minute acquaintance with the anatomy of these extinct forms, yet the subsequent researches of Profs. Agassiz and Hall in America, Prof. Nieszkowski in Russia, and the independent investigations of Mr. J. W. Salter and the author in this country have shown that a close relationship actually does exist between the *Xiphosura* and the *Eurypterida*.

The author then gave a detailed comparison of the structure of